

Appln. No. 10/662,047
Amendment dated June 28, 2005
Reply to Notice of Allowance of March 28, 2005

Amendments to the Specification:

Please replace paragraph [0003] on page 1 of the published application, with the following rewritten paragraph:

Fig. 6 illustrates one X-ray arrangement for use in intraoral application, which is described in the present assignee's earlier US application Ser. No. 10/210857 Patent 6,898,268. The arrangement comprises an X-ray source 100 for producing X-radiation, an X-ray detector 102 for receiving X-radiation passed through an object, and a data transfer link 104 between the X-ray source and the X-ray detector. The X-ray source 100 comprises an X-ray tube and typically also a collimator. The X-ray source is preferably carried by a linkage 106, whereby the X-ray source can be set in various radiating positions.

Please replace paragraph [0008] on page 1 of the published application, with the following rewritten paragraphs:

Summary of the invention

One problem in such a prior art X-ray arrangement for intraoral applications relates to varying space arrangements in facilities where the apparatus is to be used, whereby the linkage supporting the X-ray source must be dimensioned for a particular site, making it necessary for the linkage to have arms of various lengths. The linkage typically includes a first arm member, articulated to a support structure and adapted to be pivotable around a substantially vertical axis, a second arm member, connected to the end of the first arm member away from the support structure and adapted to be pivotable around a substantially vertical axis, and a third arm member, connected to the opposite end of the second arm member and adapted to be pivotable around a substantially horizontal axis. In terms of designing the linkage, the second and third arm members can be usually constructed from standard length arm members, the first arm member being selected from certain standard lengths according to a site of application. If the application site changes or the apparatus is

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relocated to necessitate an alteration of the linkage design, the first arm member is usually replaced with a new one, while the second and third arm members remain as before, because the length of the second and third arm members does not affect a minimum operating range. Such ordering and replacement of a new arm member incurs extra costs for the operator. In addition, there will be costs for the manufacturer caused by manufacturing and stocking arm members of various lengths.

Summary of the Invention

Consequently, it is an object of the present invention to provide an X-ray apparatus for intraoral imaging applications, enabling a linkage to be redesigned in a relative simple manner, while providing savings in total costs. In order to fulfill this object, the inventive X-ray apparatus is provided with a length-adjustable first arm member. This length-adjustable first arm member comprises preferably two telescopically fitted, substantially rectangular profiles, the inner profile thereof having its two opposite outside surfaces formed with recesses lengthwise of the profile, with T-slots provided on the bottom thereof, and the outer profile having its inside surface formed with inward protrusions complementary to said recesses and provided with fastening through-holes for the passage of fastening elements from the outer profile's outside surface to the T-slot for locking said profiles in a desired relative position in the longitudinal direction thereof. The outer profile has its outside surface preferably provided with a lengthwise recess complementary to that in the inner profile's outside surface, and said outside-surface recesses of the outer and inner profile are provided with a cover element for making the outside surface thereof substantially flat. The fastening elements have their distal ends retained in said outside-surface recess of the outer profile and concealed under the cover element.

Please replace paragraph [0015] on page 2 of the published application, with the following rewritten paragraph:

[0015] In reference to figs. 1-5, an X-ray apparatus 1 of the invention for intraoral imaging applications includes a first arm member 5, mounted on a support structure 4 and pivotable about a vertical axle 10 in a substantially horizontal plane, which comprises two telescopically fitted arm sections 5a, 5b. It has been proposed that the distal end of the arm 5 be provided with an arm member 6, adapted to be pivotable around a substantially vertical pivoting-aids-axle at an articulation 9 and having its opposite distal end fitted by means of a link element 8 with a third arm member 7, pivotable relative to the link element 8 around a substantially horizontal axis. To the distal end of the arm 7 is connected, by way of an articulated joint 11, an X-ray source 3 which is rotatable to various positions about a vertical axis in the articulated joint 11, as well as around a horizontal axle 12. The X-ray source 3 includes further a tube element 13 for emitting radiation in a desired direction.